INCH-POUND
MIL-DTL-83503/7E
w/AMENDMENT 1
4 August 2010
SUPERSEDING
MIL-DTL-83503/7E
21 July 2004

DETAIL SPECIFICATION SHEET

CONNECTOR, ELECTRICAL, FLAT CABLE, NONENVIRONMENTAL PLUG WITH DUAL POLARIZATION, ROUND CONDUCTOR, INSULATION DISPLACING NON-REMOVABLE SOCKET CONTACTS (.100 X .100 SPACING)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-83503.

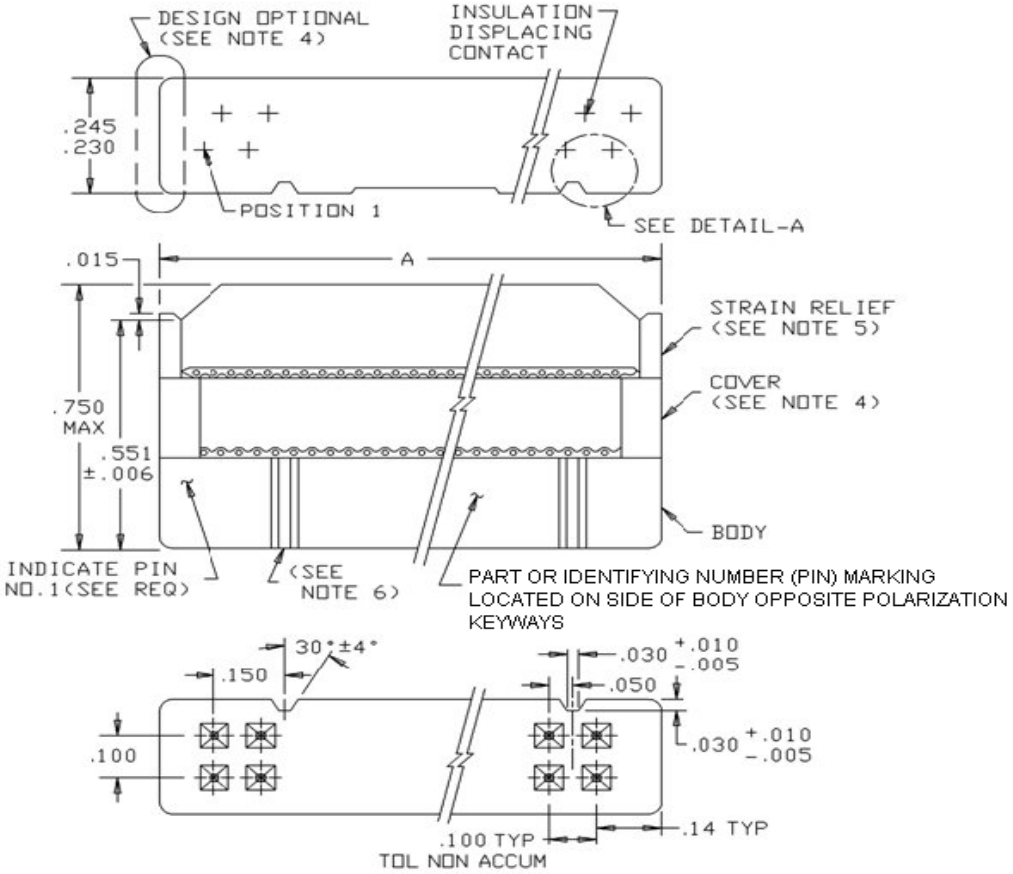
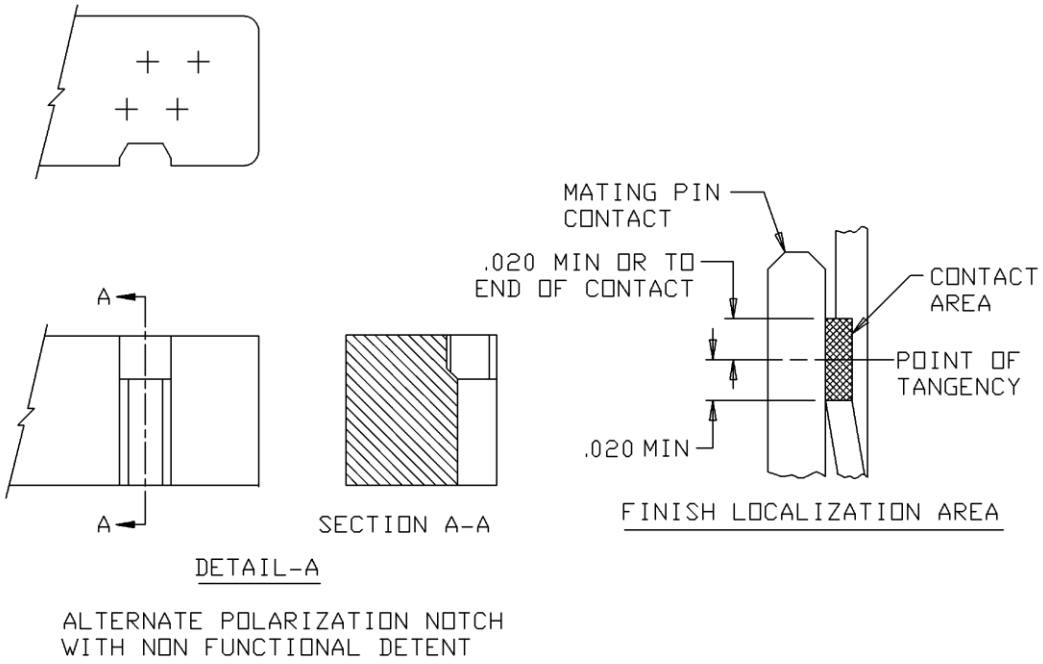


FIGURE 1. Dimensions and configuration.



Inches	mm	Inches	mm
.005	0.13	.100	2.54
.006	0.15	.14	3.6
.010	0.25	.150	3.81
.015	0.38	.230	5.84
.020	0.51	.245	6.22
.030	0.76	.551	14.00
.050	1.27	.750	19.05

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are ±.01 inch (0.3 mm) for two place decimals and ±.005 inch (0.13 mm) for three place decimals and ±2° on angles.
4. The method used to connect the cover to the body is optional, but shall meet the requirements of MIL-DTL-83503 and this specification.
5. Strain relief shall be provided. Strain relief design is optional. The strain relief may be either separate or an integral part of cover.
6. For 10 and 14 position connectors the polarizing feature on this end is non-existent.
7. Tolerances are non-cumulative.

FIGURE 1. Dimensions and configuration - Continued.

TABLE I. Dash numbers and characteristics.

Dash number	Number of contacts	Dimension 'A' inches (mm)	Mating Connector	
			Header (straight) M83503/21- or M83503/25-	Header (right angle) M83503/20- or M83503/24-
01	10	.68 (17.3)	01, 02. 03	01, 02, 03
02	14	.88 (22.4)	04, 05, 06	04, 05, 06
03	16	.98 (24.9)	07, 08, 09	07, 08, 09
04	20	1.18 (30.0)	10, 11, 12	10, 11, 12
05	24	1.38 (35.1)	---	---
06	26	1.48 (37.6)	13, 14, 15	13, 14, 15
07	30	1.68 (42.7)	---	---
08	34	1.88 (47.8)	16, 17, 18	16, 17, 18
09	40	2.18 (55.4)	19, 20, 21	19, 20, 21
10	50	2.68 (68.1)	22, 23, 24	22, 23, 24
11	60	3.18 (80.8)	25, 26, 27	25, 26, 27
12	64	3.38 (85.9)	28, 29, 30	28, 29, 30

REQUIREMENTS:

Design and construction:

Dimensions and configurations: See figure 1 and table I.

Temperature range: -55°C to +120°C.

Voltage rating: 300 V rms.

Current rating: 1 ampere.

Test wire size: 28 AWG stranded.

Withstanding voltage:

Sea level: 500 V rms.

Altitude: 200 V rms.
Contact resistance: 50 milliohms, maximum.

Materials:

Contacts: Contacts shall be made of beryllium copper or phosphor bronze. Beryllium copper shall be in accordance with ASTM-B196/B196M or ASTM-B197/B197M. Phosphor bronze shall be in accordance with ASTM-B139/B139M or ASTM-B103/B103M.

Contact plating: The contact mating area shall be gold plated 50 microinches (1.27 μm) minimum (see MIL-DTL-83503).

Housing, cover, and strain relief: Glass reinforced polyester in accordance with MIL-M-24519, type GPT-15F, GPT-20F, or GPT-30F. Cover retaining device may be made of stainless steel in accordance with ASTM-A240/A240M class 301 or class 305 stainless steel.

Interface:

Cable: Flat cable, round conductor, 28 AWG stranded in accordance with MIL-DTL-49055/11, MIL-DTL-49055/12 or Defense Supply Center Columbus (DSCC) drawing 92011. Flat cable conductor spacing .05 inch (1.27 mm) between conductor centerlines. Overall cable thickness shall not exceed .042 inch (1.07 mm).

Mating connectors: See MIL-DTL-83503/20, MIL-DTL-83503/21, MIL-DTL-83503/24, or MIL-DTL-83503/25.

Printed wiring board (PWB): For PWB's these connectors mate with round or square post .025 inch (0.64 mm). For proper contact engagement these connectors require a .230 inch (5.84 mm) minimum contact pin length. (NOTE: These connectors are not intended to be stacked side by side on a .100 X .100 inch (2.54 X 2.54 mm) pin field.)

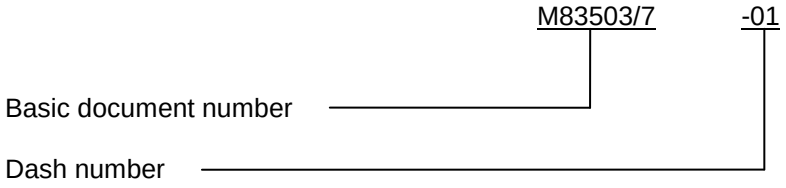
Marking:

Contact identification: Molded triangle "A" or notch to show number 1 contact or raised numbers to show position number "1".

Marking:

PIN: The PIN shall consist of the letter "M", followed by the basic specification number, "/". The specification sheet number, "-" and the dash number in table I.

Example



Amendment notations. The margins of this specification are marked with vertical lines to indicate where modifications from this amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Referenced documents. In addition to MIL-DTL-83503, this document references the following:

MIL-DTL-49055/11
MIL-DTL-49055/12
MIL-DTL-83503/20
MIL-DTL-83503/21
MIL-DTL-83503/24
MIL-DTL-83503/25
MIL-M-24519
DSCC 92011
ASTM-A240/A240M
ASTM-B103/B103M
ASTM-B139/B139M
ASTM-B196/B196M
ASTM-B197/B197M

CONCLUDING MATERIAL

Custodians:
Air Force - 85
DLA - CC

Review activity:
Air Force - 99

Preparing activity:
DLA - CC

(Project 5935-2010-134)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at https://assist.daps.dla.mil